HENRY TOOLS

Industrial Airtools at Work

Models
44-RAE
44-RAZE
44-RACE

General Safety and Maintenance Manual











EXTENDED LENGTH RIGHT ANGLE GRINDER

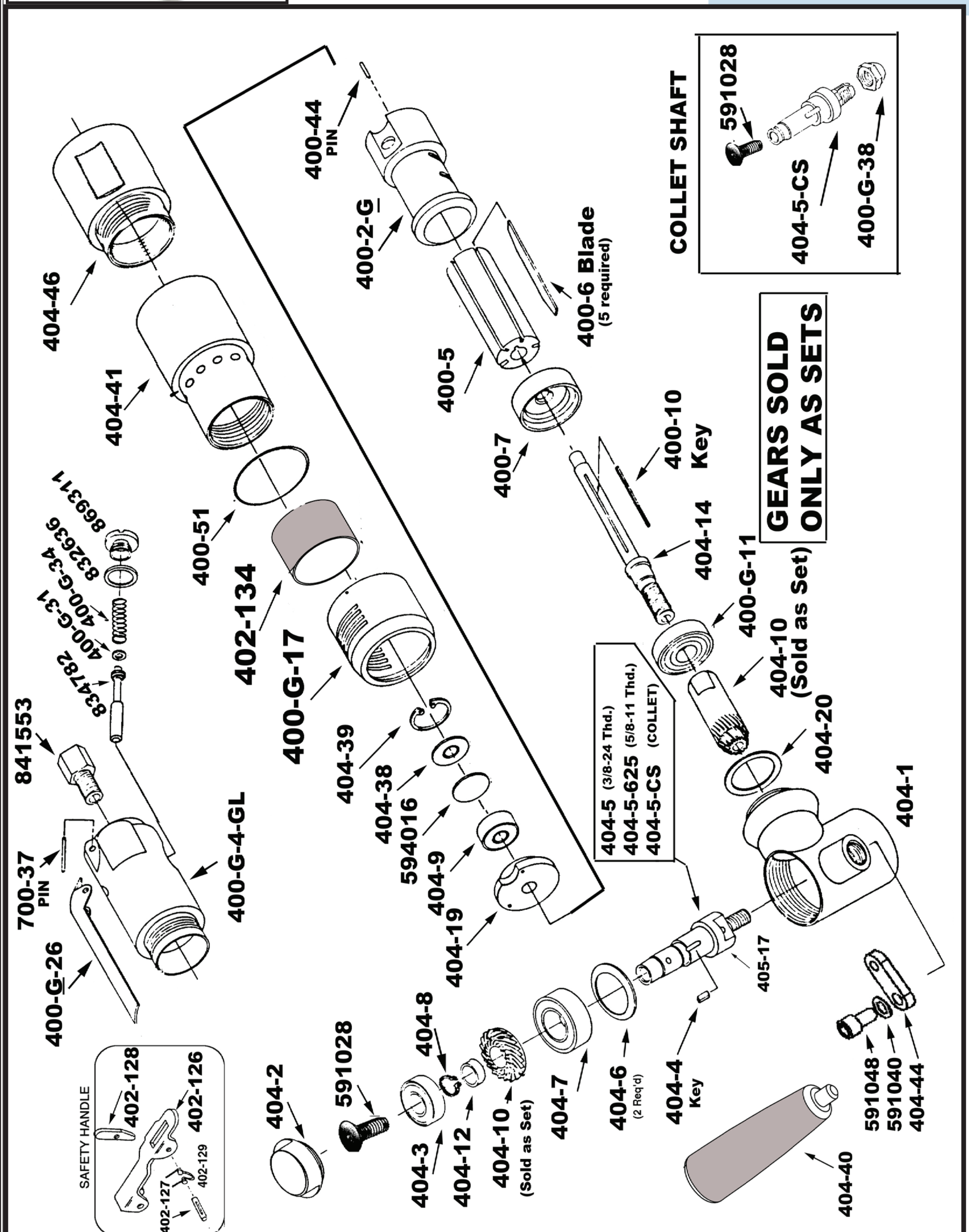
Model Number	Exhaust Direction	Throttle Type	Speed	Power Output	Case Material	Weight		Length	Diameter	Air Consumption	Spindle Thread
						Aluminum					
44RAE	Side	(L) Lever or (K) Safety Lever	9000 to 11000 R.P.M (11000rpm is standard)	0.9 H.P. (675 W)	Alumi-num	2.75lbs. 1.2kg		11.18 Inch 284mm	1 ¾” 4.4cm	25 CFM (11.8 L/S)	3/8-24 x 0.98 Inch
44RAZE											5/8-11 x 0.98 Inch
44RACE											1/4 Inch Built-In Collet

THE HENRY TOOL CO., MANUFACTURED BY HENRY TOOLS
498 So. Belvoir Blvd., South Euclid, OH 44121 U.S.A.
Ph: (216) 291-1011 or (800) 826-5257 • Fax: (216) 291-5949 or (800) 303-2800
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For additional product information visit our website.

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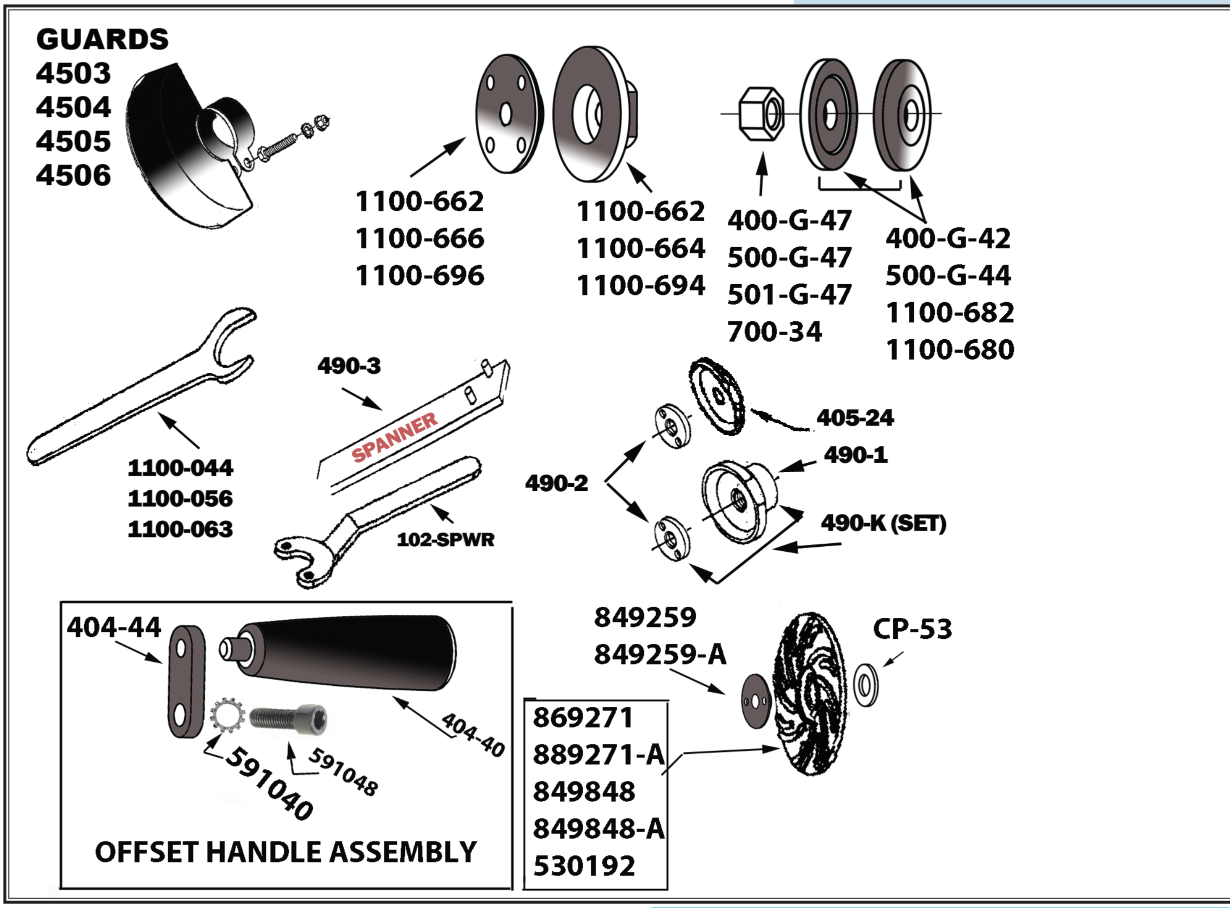
Part No	Description
400-G-11	FRONT BEARING
400-G-17	Alum Side Exhaust Sleeve
400-G-17-S	Steel Side Exhaust Sleeve
400-G-4-GL	Aluminum Backhead
400-G-4-GLS	Steel Backhead
400-G-25	MUFFLER
400-G-26	THROTTLE LEVER
400-G-34	SPRING
400-G-38	COLLET NUT
400-G-42	3/8 I.D. FLANGE (2”-3” WHEELS)
400-G-47	3/8-24 JAM NUT
400-10	KEY
400-44	ROLL PIN
400-2G	CYLINDER WITH PIN INSTALLED
400-5	ROTOR
400-6	BLADE (5 are REQ.)
400-7	FRONT ENDPLATE
400-51	0-RING
402-126	SAFETY LEVER
402-127	SAFETY LEVER PIN
402-128	LOCKOUT LEVER
402-129	SAFETY LEVER SPRING
404-1	Case
400-G-17	Exhaust (aluminum)
400-G-17-S	Exhaust (steel)
402-134	MUFFLER
404-1	ANGLE HEAD
404-2	BEARING CAP
404-3	UPPER OUTPUT SPINDLE BEARING
404-4	KEY
404-5	3/8-24 X .980 OUTPUT SPINDLE
404-5-CS	COLLET OUTPUT SPINDLE
404-5-625	5/8-11 X .980 OUTPUT SPINDLE
404-6	Wavy Washer (Note:2 are req’d)
404-7	LOWER OUTPUT SPINDLE BEARING
404-8	SNAP RING
404-9	REAR MOTOR BEARING
404-10	GEAR SET (sold only as set)
404-12	SPACER RING
404-14	SPINDLE
404-19	REAR ENDPLATE
404-20	MOTOR SPACER
404-38	BEARING COVER
404-39	SNAP RING
404-40	DEAD HANDLE
404-41	MOTOR CASE
404-44	OFFSET HANDLE BRACKET
404-46	CASE EXTENSION

Part No	Description
500-G-44	3/8 I.D. FLANGE (4”-5” WHEELS)
500-G-47	1/2-13 JAM NUT
501-42A	1/2” I.D. FLANGE
700-34	5/8-11 JAM NUT
700-37	THROTTLE LEVER PIN
1100-680	5/8 I.D. FLANGE
1100-682	“(6”” OR SMALLER WHEELS) 3/8 I.D. FLANGE (5””-6”” WHEELS)”
591028	SCREW
591040	Star Washer for Bracket
591048	SCREW
591106	SET SCREW (SPECIFY SPEED)
592016	SNAP RING
594016	O-RING
832636	GASKET
841552	3/8 NPT TO 3/8 NPT BUSHING
841553	3/8 NPT TO 1/4 NPT BUSHING
844302	O-RING
869311	THROTTLE VALVE CAP
834782	THROTTLE VALVE-INCLUDES 844302
ASSEMBLIES	
510120	REPAIR KIT with Gear Set
510121	REPAIR KIT WITHOUT GEARS
402-26	Safety Lever Assembly
ACCESSORIES	
PART	DESCRIPTION
CP-53	WASHER
300-16	1/8” COLLET ADAPTER
300-16-3/32	1/4” TO 3/32” COLLET ADAPTER
400-78	3/8-24 TO 5/8-11 ADAPTER
405-24	BACKING PLATE FOR 490-KR
490-K	“3/8-24 X TYPE 27 ADAPTER ASSY. .980”
490-KR	“3/8-24 X TYPE 27 ADAPTER ASSY. .580”
490-1	BACKING PLATE FOR 490-K
490-2	NUT FOR 490-K & 490-KR
1100-660	3/8-24 TO 5/8 I.D. TYPE 27 ADAPTER ASSY.
1100-661	3/8-24 TO 5/8 I.D. BACKING PLATE
1100-662	3/8-24 TO 5/8 I.D. ADAPTER NUT
1100-664	3/8-24 TO 7/8 I.D. BACKING PLATE
1100-666	3/8-24 TO 7/8 I.D. ADAPTER NUT
1100-668	3/8-24 TO 7/8 I.D. TYPE 27 ADAPTER ASSY.
1100-680	5/8” Adaptor for Type 1 wheels
1100-692	5/8-11 TO 7/8 I.D. TYPE 27 ADAPTER ASSY.
1100-694	5/8-11 TO 7/8 I.D. BACKING PLATE
1100-696	5/8-11 TO 7/8 I.D. ADAPTER NUT

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Part No	Description
849259	5/8-11 SANDING PAD NUT
849259-A	3/8-24 SANDING PAD NUT
889271	5/8-11 4" SANDING PAD (MAX 12000 RPM)
889271-A	3/8-24 4" SANDING PAD (MAX 12000 RPM)
849848	5/8-11 5" SANDING PAD (MAX 10000 RPM)
849848-A	3/8-24 5" SANDING PAD (MAX 10000 RPM)
GUARDS	
4503	3" TYPE 27 GUARD

Part No	Description
4504	4" TYPE 27 GUARD
4505	5" TYPE 27 GUARD
4506	6" TYPE 27 GUARD
TOOLS/ WRENCHES	
490-3	PIN SPANNER
102-SPWR	WRENCH FOR SANDING PAD NUT
1100-044	7/16" WRENCH
1100-056	9/16" WRENCH
1100-063	5/8" WRENCH
1100-075	3/4" WRENCH
1100-094	15/16" WRENCH

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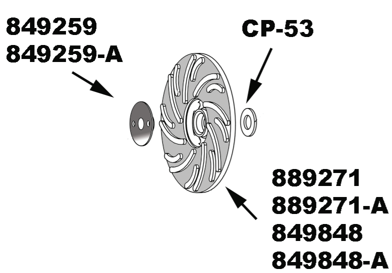


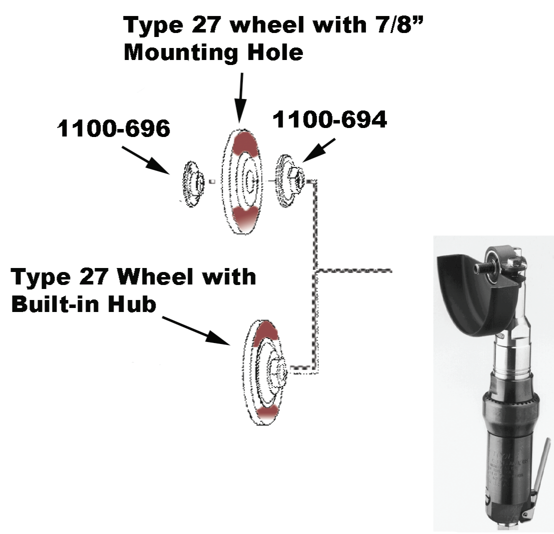
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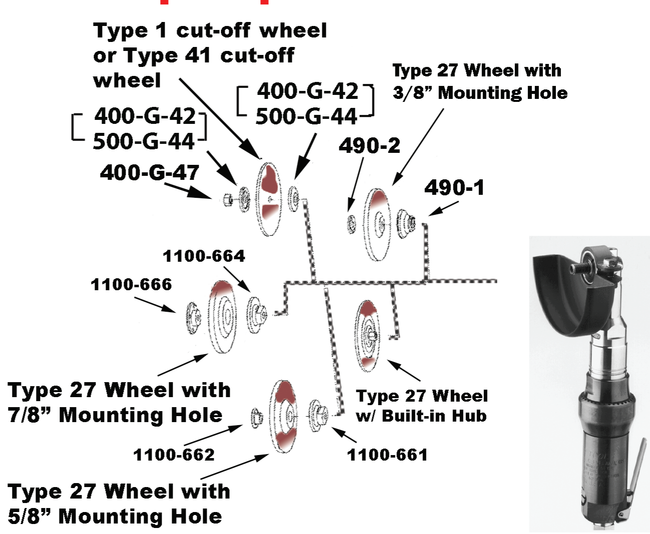
Right Angle Grinders with 5/8"-11 x .980 Output Spindle

Spiralcool Pad Setup





Right Angle Grinder with 3/8-24 x .980 Output Spindle



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This tool is designed to operate on 90 psig (6.2 bar) maximum air pressure with 1/4" (8 mm) hose. Do not use a grinder without recommended wheel guard. Do not use any wheel for which the operating speed listed is lower than the actual free speed of the Grinder.

SAFETY

1. Before operation check spindle speed with a tachometer. If the RPM exceeds the rated speed stamped on tool, servicing is required.
2. Inspect grinding wheels for bends, chips, nicks, cracks or severe wear. If the wheel has any of these, or has been soaked in liquids do not use. On brushes check for loose wires that may fly off in operation.
3. Start new grinding wheels under a steel bench. Run at full throttle for one minute. Defective wheels usually come apart immediately. When starting a cold wheel apply to work slowly, allow wheel to warm gradually.
4. Model 44RAE grinders equipped with collet spindles are intended for mounted wheels,points and carbide burrs. They are not guarded for type 1 wheels. If you have a type 1 wheel application,please purchase a guard (4504,4505,etc.) 5.The Model 44RAE Grinders are equipped with a guard from the manufacturer. A guard is not needed for :
   - a.) mounted wheels two inches (50 mm) or smaller;
   - b.) grinders used for internal work, while within the work being ground.
5. At least one-half of the mandrel length (i.e. mounted wheel, burr, etc.) must be inserted into the collet. Secure collet chuck tightly.
6. Safety levers are available from the manufacturer. (402-26).
7. Before mounting or removing a wheel, disconnect grinder from air supply. The wheel should fit properly on arbor, do not use bushings or wheel flanges to adapt a wheel to any arbor unless recommended by the manufacturer. (Wheel flanges should be at least 1/3 the diameter of the grinding wheel.)
8. Wear safety goggles and other protective clothing. Continuous exposure to vibration may cause injury to your hands and arms.(See regulations.)
9. Properly maintained air tools are less likely to fail or cause accidents. If tool produces an unusual sound or vibrations repair immediately.

DISASSEMBLY

1. PLEASE NOTE: The brass spacers that were installed by the factory are necessary for this tool to operate efficiently. When disassembling this tool examine how spacers are arranged. They must be installed exactly the same way. Failure to do this will cause improper gear spacing, which causes pre-mature tool failure.
2. Disconnect air & remove all wheels and accessories.
3. Secure anglehead in vise on dead handle boss. Never Squeeze anglehead in vise. This will distort bearings and ruin gear alignment. Remove Backhead(400-G-4). Unscrew case (400-G-1) 3. Remove deflector (400-G-17-S).
4. Pull motor from right angle head. Be careful to note location of shims.
5. Remove snap ring (404-39),wafer(404-38),O-ring(594016), and snap ring (592016).(Some of these may not be present).
6. Install brass or aluminum jaws in vise. Grasp the O.D. of cylinder(400-2-G)and end plate(404-19). Using a 3/16" punch, tap spindle out rear bearing (404-9).
7. Remove cylinder, blades(400-6). 8. With rotor (400-5) still on spindle (404-14), grasp the rotor in vise snugly and remove pinion gear(404-10).
8. Remove rotor(400-5) Remove key and front thrust plate(400-7).
9. Press bearing (400-G-11) off of spindle.
10. Secure angle head in vise and unscrew cap (404-2).
11. Remove from vise and tap on spindle with a plastic hammer. The spindle assembly and spring washers (404-6) will slide out.
12. Clamp flats of spindle(404-5) in vise. Using a plastic hammer, tap evenly on O.D. of bearing cap until free of bearing (404-3). Note position of shims. Using a 9/64" T-Handle hex wrench unscrew (591028) screw.
13. Press bearing (404-3) off spindle.
14. Remove snap ring (404-8) .Support bearing (404-7) and press spindle through with 1/4" punch. This will remove spacer (404-12), gear (404-10) and bearing(404-7).
15. Remove key (404-4).

ASSEMBLY

1. Support front bearing(400-G-11) on drill block. Press spindle(404-14) through bearing until it bottoms on shoulder.
2. Slide front thrust(400-7)over the spindle and onto front bearing. Place key(400-10) into keyway in spindle. Slide rotor down over shaft.
3. Grasp rotor in vise snugly and replace pinion gear(404-10) and wrench firmly.
4. Support bearing and pinion gear in downward position. Place five blades(400-6) in slots. Slip cylinder(400-2-G) over rotor.
5. Install rear thrust(404-19) locating cylinder pin in small hole of rear thrust plate (404-19).
6. Place bearing (404-9) in rear thrust and tap into place with suitable bearing driver. Place snap ring(592016) in spindle groove. Place O-Ring (594016) and (404-38) and snap ring 404-39 in endplate groove.
7. Support bearing(404-7) on inner race. Press spindle (404-5) through bearing until it bottoms on shoulder.
8. Install key (404-4) and line up with keyway of ring gear(404-10).
9. Support gear on inner diameter and press spindle through. Slide spacer(404-12) on spindle. Replace snap ring (404-8) on spindle groove.
10. Support threaded end of spindle and press on bearing(404-3). Tighten screw (591028) into end of spindle. Press spindle assembly into cap(404-2) Grease gear.
11. Install two spring washers(404-6) into angle head (404-1)(CURVED SIDE DOWN).
12. 1nstall spindle assembly into angle head housing, secure in vise and tighten cap (404-2).
13. Re-Locate angle head in vise-so that the motor can be installed vertically.
14. Replace shim(404-20),
15. Grease the gear. Place motor assembly into angle head while turning spindle(404-5)-so that gears mesh. Tap lightly on rear of motor to insure that is fully seated.
16. Install exhaust deflector (400-G-17-S). Place O-ring(400-51) on motor case(400-G-1) and screw onto angle head.
17. The deflector (400-G-17) should be snug, but can be turned. Place a few drops of oil into motor inlet.
18. Screw on (404-46) and backhead (400-G-4-GL) Replace guard on tool.
19. CHECK RPM WITH TACHOMETER.TOOL MUST RUN AT OR BELOW SPEED STAMPED ON TOOL.

INSTALLATION

For most efficient operation, 90 psig (620 kPa) of clean dry air is required at the tool with the tool running, with-out extreme fluctuation. Minimum recommended hose size is 3/8" I.D. when the length of the hose is eight feet or less. An air line filter and lubricator, should be used. Hose should be blown out before attaching to the tool.

Loss of Power

A loss of power may not be related to the tool. First, check the air line pressure. It should be 90 psi at the tool while operating.

LUBRICATION

Lubricate the motor with an air line lubricator, using a light air motor oil. Adjust the lubricator to dispense one drop per cycle or three drops per minute.

CAUTION Do not use substitutes for oil and grease. This could result in damage to the tool.

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